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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,292	12/01/2000	Jonathan Yen	10004133-1	4936

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EXAMINER

KHOSHNOODI, NADIA

ART UNIT	PAPER NUMBER
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2137

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/728,292	Applicant(s) YEN ET AL.	
	Examiner Nadia Khoshnoodi	Art Unit 2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 20-29 is/are pending in the application.
- 4a) Of the above claim(s) 17-19 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6, 10-20, and 22-29 is/are allowed.
- 6) ☒ Claim(s) 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Claims 1-16 & 20-29 are pending. Claims 1-6, 10-20, and 22-29 are allowable over the prior arts of record. Applicant's arguments/amendments with respect to previously presented claims 7-9 & 21 filed 2/2/2006 have been fully considered but they are not persuasive. The Examiner would like to point out that this action is made final (See MPEP 706.07a).

Response to Arguments

Applicants contend that "neither of the cited references teaches or suggests converting a base image that includes an image of a handwritten signature into a marked image having a visual appearance that resembles the base image and contains a graphical encoding of the signed message." Examiner respectfully disagrees and will specifically point out the column/line numbers in the cited references that provide motivation to combine the references, as per Applicants' request. First, Zank et al. teach capturing a handwritten signature from a pen tablet when a person supplies his/her signature, i.e. "a base image that includes an image of a handwritten signature," in col. 5, lines 21-24. Zank et al. further teach that several identifying properties are also observed when the person supplies his/her signature and marks this signature with coordinates as well as with other properties such as the directional features, the various time-intervals from one point to another, and the amount of pressure applied (col. 5, lines 29-35). Zank et al. then teach that these characteristics can be embedded as a code into the image received from the handwritten signature that was captured, i.e. converting that base image "into a marked image having a visual appearance that resembles the base image," in col. 5, lines 43-49.

Furthermore, Examiner would like to point out that given a set of coordinates, as well as various other data such as the directional information (yielding a vector-form of the image), computed from the signature obtained, one can reproduce an image that visually resembles the original signature as captured. Yet further, Zank et al. suggest that the document signed by the handwritten signature could be a graphical representation of an actual document (col. 6, lines 28-38), where in this case, Epstein already disclosed a document which was a corroborative signed message from information to be encoded (col. 2, lines 24-60), i.e. "and contains a graphical encoding of the signed message." Thus, the combination of Epstein and Zank et al. is proper and meets all of the claimed limitations. Finally, Examiner would like to point out that Zank et al. invites the combination of using digital signatures and handwritten signatures within the same document for added security (col. 9, line 56 – col. 10, line 4).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Due to the reasons stated above, the Examiner maintains rejections with respect to previously presented claims 7-9. Epstein teaches the limitations that the Applicant suggests distinguish from the prior art. Furthermore, Zank et al. in combination with Epstein suggest/teach the limitations not explicitly disclosed by Epstein. Therefore, it is the Examiner's

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conclusion that previously presented claims 7-9 are not patentably distinct or non-obvious over the prior art of record as presented.

Allowable Subject Matter

II. Claims 1-6, 10-20 and 22-29 are allowed.

The following is an Examiner's statement of reasons for allowance: the closest prior arts Epstein et al. (US Patent No. 6,601,172), Wang et al. (US Patent No. 5,490,217), and Sabourin et al. (*Offline Signature Verification by Local Granulometric Sized Distribution*) taken singly or in combination do not teach or fairly suggest, among other things, converting the base image into a marked image containing a graphical encoding of the signed message by segmenting image areas to be encoded, and encoding the segmented image areas with sets of two-dimensional code patterns to graphically encode the corroborative signed message in the marked image. It is for this reason and in combination with other elements of the claims that claims 1-6, 16, 20, and 22-29 are allowable over the closest prior arts Epstein et al. (US Patent No. 6,601,172), Wang et al. (US Patent No. 5,490,217), and Sabourin et al. (*Offline Signature Verification by Local Granulometric Sized Distribution*).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claim Rejections - 35 USC § 103

III. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

IV. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein U.S.

Patent No. 6,601,172 and further in view of Zank et al., US Patent No. 6,307,955.

As per claim 7:

Epstein teaches generating a corroborative signed message from information to be encoded (col. 2, lines 24-60). Not explicitly disclosed by Epstein is converting a base image that includes an image of a handwritten signature into a marked image having a visual appearance that resembles the base image and contains a graphical encoding of the signed message.

However, Zank et al. teach a handwritten signature that preserves all of the features/elements of the biometric signature, for example by having time related information encoded into the signature. Furthermore, this signature can also be added to a document for authentication purposes. Therefore it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein to include converting a base image that includes an image of a handwritten signature into a marked image having a visual appearance that resembles the base image and contains a graphical encoding of the signed message. This modification would have been obvious because a person having ordinary skill in the art, at the

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time the invention was made, would have been motivated to do so since it is suggested by Zank et al. in col. 5, lines 43-62 and col. 7, lines 51-59.

As per claim 8:

Epstein and Zank et al. substantially teach the method of claim 7. Furthermore, Zank et al. teach converting the handwritten signature image into a vector form image (col. 5; lines 29 – col. 6, line 8).

As per claim 9:

Epstein and Zank et al. substantially teach the method of claim 8. Furthermore, Zank et al. teach obtaining a set of base control points for the vector form image and encoding the information by displacing the base control points to obtain a marked set of control points from which the marked image is produced. (col. 5, lines 29 – col. 6, line 8 and col. 8, lines 44-67).

V. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein U.S. Patent No. 6,601,172 and Zank et al., US Patent No. 6,307,955, as applied to claim 8 above and further in view of Kashi et al., US Patent No. 5,828,772.

As per claim 21:

Epstein and Zank et al. substantially teach the method of claim 8. Not explicitly disclosed is wherein the converting of the handwritten signature image comprises fitting a sequence of spline curves to the handwritten signature. However, Kashi et al. teach using a spline curve for smoothing the coordinates. Therefore it would have been obvious to a person in the art at the time the invention was made to modify the method disclosed in Epstein to use spline curves as the operation to get the right shape of the signature image. This modification would have been obvious because a person having ordinary skill in the art, at the time the

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invention was made, would have been motivated to do so since it is suggested by Kashi et al. in col. 4, lines 18-27.

**References Cited, Not Used*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Moore, US Patent No. 5,838,814
2. Wu et al., US Patent No. 6,748,533

The above references have been cited because they are relevant due to the manner in which the invention has been claimed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadia Khoshnoodi whose telephone number is (571) 272-3825.

The examiner can normally be reached on M-F: 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Nadia Khoshnoodi

Examiner

Art Unit 2137

4/24/2006

NK


EMMANUEL L. MOISE
SUPERVISORY PATENT EXAMINER